DOCUMENT RESUME

ED 347 722 EC 301 333

AUTHOR Lapierre, D.; And Others
TITLE A 54-Point Verbal-Performance IQ Discrepancy on the WISC-R: Cognitive Functioning of a Child from an Alternative School.
PUB DATE Feb 92
NOTE 4p.; Paper presented at the Annual Meeting of the International Neuropsychological Society (20th, San Diego, CA, February 5-8, 1992).
PUB TYPE Speeches/Conference Papers (150)

EDRS PRICE MF01/PC01 Plus Postage.
DESCRIPTORS Case Studies; *Educational Background; Elementary Education; Females; Foreign Countries; *Learning Disabilities; *Nontraditional Education; Performance Factors; Performance Tests; *Student Evaluation; Verbal Ability
IDENTIFIERS *Discrepancy Analysis; Wechsler Intelligence Scale for Children (Revised)

ABSTRACT

Marked Wechsler Intelligence Scale for Children--Revised (WISC-R) verbal-performance discrepancy commonly leads to the assumption that such children have brain pathology or cognitive disorders. Children without brain dysfunction may also exhibit wide discrepancy, but a discrepancy score of 30 is now assumed to occur in only 2% of the population. This investigation presents an 11-year-old child showing a 54-point discrepancy between the Verbal--VIQ and Performance--PIQ scales of the WISC-R. Results of wide ranging testing and other considerations strongly suggested that this child didn't manifest any kind of brain dysfunction. It was concluded that the particular academic environment of the child, an alternative school, exerted a very strong influence on her results on the WISC-R. This conclusion is further supported by the results of a follow-up evaluation, done one year after the child had been transfered to a traditional school, which revealed a WISC-R verbal-performance discrepancy of only 12 points. (Author)

****
* Reproductions supplied by EDRS are the best that can be made *
* from the original document. *
****

INS

ED347722

INTERNATIONAL NEUROPSYCHOLOGICAL SOCIETY
TWENTIETH ANNUAL MEETING
SAN DIEGO, CALIFORNIA, U.S.A.
FEBRUARY 5 - 8, 1992

"PERMISSION TO REPRODUCE THIS MATERIAL HAS BEEN GRANTED BY
Claude M. J. Braun
TO THE EDUCATIONAL RESOURCES INFORMATION CENTER (ERIC)."

U.S. DEPARTMENT OF EDUCATION
Office of Educational Research and Improvement
EDUCATIONAL RESOURCES INFORMATION CENTER (ERIC)
☑ This document has been reproduced as received from the person or organization originating it.
☐ Minor changes have been made to improve reproduction quality.
• Points of view or opinions stated in this document do not necessarily represent official OERI position or policy.

Lapierre, D., Braun, C.M.J. & Le Pailleur, L. A 54-point verbal-performance IQ discrepancy on the WISC-R: cognitive functioning of a child from an alternative school.

Marked WISC-R verbal-performance discrepancy commonly leads to the assumption that such children have brain pathology or cognitive disorders. Children without brain dysfunction may also exhibit wide discrepancy, but a discrepancy score of 30 is now assumed to occur in only 2% of the population. This investigation presents an eleven year-old child showing a 54-point discrepancy between the VIQ and PIQ scales of the WISC-R. Results of wide ranging testing and other considerations strongly suggested that this child didn't manifest any kind of brain dysfunction. It was concluded that the particular academic environment of the child, an alternative school, exerted a very strong influence on her results on the WISC-R. This conclusion is further supported by the results of a follow-up evaluation, done one year after the child had been transfered to a traditional school, which revealed a WISC-R verbal-performance discrepancy of only 12 points.

EC 301333

BEST COPY AVAILABLE

A 54-point verbal-performance IQ discrepancy on the WISC-R: cognitive functioning of a child from an alternative school.

Introduction. WISC-R VIQ-PIQ discrepancies are considered indicative of brain damage, lower VIQ scores being associated with left hemisphere lesions and lower PIQ scores with right hemisphere lesions. Kolb and Whishaw (1985) noted that a split of 10 points is conceived as significant. However, it is now well known that such a score does not necessarily signal a pathological child from the general population. Kaufman (1980) suggested the use of a new criterion of VIQ-PIQ discrepancies abnormality for 20 points (less than 12% prevalence) or 30 points (less than 2% prevalence).

This case study wishes to highlight the impact that a certain educational environment had on the IQ scores of an apparently normal eleven-year old child who manifested a VIQ-PIQ discrepancy of 54 points in favor of the performance scale. The study was designed in order to verify the presence of a left hemisphere lesion and/or a severe learning disability.

Method. Subject: Mélodie went to an alternative primary school with "free pedagogy". During her first two years, she showed no interest in reading. She was taught to write phonetically. By her third grade, Mélodie could read only rather slowly. In fifth grade, she could read well but was still writing phonetically. She performed poorly in mathematics. She was then transfered to a traditional school and classified by a special educator as having a severe learning disability. She was seen by us at this time at age 11. Measures: Intellectual abilities. The WISC-R and the Kaufman Assessment Battery for Children (K-ABC: Kaufman & Kaufman, (1983) were administered as well as Dayhaw's vocabulary test (1974) and the Verbal Absurdities subtest of the Detroit Tests of Learning Aptitude (DTLA: Baker & Leland, 1967). Academic abilities. A special educator's evaluation of the child's mathematical and writing skills was obtained. A reading comprehension test and Gill's diagnostic test of reading (1964) were also chosen to evaluate the child's reading ability. Neuropsychological functions. Four dichotic listening tasks (Kimura, 1964), a tachistoscopic task, a verbal memory test (Rey, 1966), the Trail Making Test (Trites, 1977), the Token Test (DiSimoni, 1978) and a Visual Word Desegregation task (Rey, 1970) were administered. Finally, a clinical EEG was obtained.

Results. Intellectual abilities. On the first WISC-R evaluation. Mélodie obtained an "average" verbal score (VIQ = 96) and a "very superior" performance score (PIQ = 150). Her full scale score was "superior" (FSIQ = 124). The child's sequential processing score on the K-ABC was at the boundary of "well above average and "upper extreme". Her simultaneous processing, mental composite processing and non verbal scores were in the "upper extreme" and her achievement score was "above average". No significant difference was found between her ability in "sequential processing" and in "simultaneous processing". On the vocabulary test, Mélodie was classified at a mental age of 14. On the Verbal Absurdities subtest, she obtained a mental age of 15 years 3 months to 15 years 6 months. Academic abilities. Mélodie obtained an overall mean score of 39% on the special educator's test of mathematical abilities and was consistently under the means of local fifth grade classes in the mathematical domain (69%-74%) in traditional schools. Mélodie's results on the special educator's writing skills test were mainly average. Her percentile scores were 60 and 98 respectively on Gill's diagnostic subtests, and on the reading test, she was at the 70th percentile. Neuropsychological functions. No evidence of atypical hemispheric organization was found on the dichotic listening tasks or on the tachistoscopic task. Mélodie was at the 50th percentile on the verbal memory test. As for the Trail Making Test, she was in the average range of poorly educated normal adults (Bornstein, 1985). On the Token Test she was in the average range of her age. Finally, she was at the 90th percentile on the Visual Word Desegregation task. Her electroencephalogram showed no abnormal electrical activity.

Discussion. Mélodie obtained normal results on measures that are fairly sensitive to brain damage and would probably have detected a left hemispheric lesion. Mélodie obtained consistently average to superior scores in reading comprehension tests, vocabulary tests and a verbal absurdities task, with

the exception of the special educator's academic achievement tests. The child did not show any difficulty in conceptualization, flexibility, short-term memory, word recognition, vocabulary, auditory-verbal functioning, visuo-spatial functioning, attentional capacity, sequential or simultaneous processing, or verbal tasks without visual support. The labeling of severe learning disability remains justified solely on the basis of the child's results on the special educator's test which corresponded to specific types of abilities normally achieved by children with traditional academic backgrounds. Learning disability is recognized, at least by neuropsychologists, as a disorder of psychological processes such as understanding and using language, ability to think, read, spell, write, do calculations, excluding the effects of environmental and cultural disadvantages, or of poor educational systems (Spreen, Tupper, Risser, Tuokko & Edgell, 1984).

We conclude that the 54-point VIQ-PIQ discrepancy in this case was due to academic underexposure in unstructured primary schools. This conclusion seems further supported by the results of a follow-up WISC-R evaluation done one year after the child had been transfered to a traditional school, at which time she was 12 years old. She manifested a massive re-organization of her WISC-R profile, consisting of a "high average" verbal score (VIQ = 114) and a "superior" performance score (PIQ = 126), her full scale score remaining in the same range (FSIQ = 122). The extraordinary initial VIQ-PIQ discrepancy observed in a child with an apparently normally functioning brain followed by "normalization" within one year, demonstrates that the WISC-R VIQ-PIQ discrepancy must not be "reified" as a neuropsychological index, since it can be very strongly influenced by purely cultural factors.